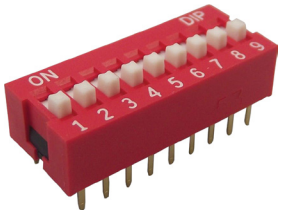
DIP Switch
Slide Type

RoHS Compliant



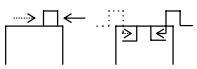
Application:

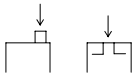
- Industrial Control
- Computer and Peripherals
- Variety of Function Controls

Specifications:

- Actuator : Thermoplastic PBT UL 94V-0 – White
- Cover : Thermoplastic PBT UL 94V-0 – Red
- Contact : Copper Alloy, Gold Plated
- Terminal : Brass, Gold Plated
- Base : Thermoplastic PA66 UL 94V-0 - Black
- Current Rating : Non-Switching: 100mA, 50V DC
  Switching: 25mA, 24V DC
- Contact Resistance : 50mΩ max.
- Insulation Resistance : 100MΩ min. 500V DC
- Dielectric Strength : 500V AC/1 minute
- Operating Force : 1000gf max. (9.8N max.)
- Travel : 2mm
- Operating Life : 2000 cycles
- Operating Temperature : -40°C to +85°C
- Storage Temperature : -40°C to +85°C
- Shelf Life : 6 Months

Test Sequence

Properties	Item	Description	Test Conditions	Requirements
Electric Performance	1	Visual Examination	By visual examination check without any out pressure & testing.	There shall be no defects that affect the serviceability of the product.
	2	Contact Resistance	1. To be measured between the two terminals associated with each switch pole. 2. Measurements shall be made with a 1kHz shall current contact resistance meter.	50mΩ Max.(initial)
	3	Insulation Resistance	500V DC, 1 minute ± 5 sec.	100MΩ Min.
	4	Dielectric withstanding Voltage	500V AC(50Hz or 60Hz) shall be applied between all the adjacent terminals and between the terminal and the frame for 1 minute.	There shall be no breakdown or flashover
	5	Capacitance	1 MHz ±10kHz	5pF Max.
Mechanical Performance	6	Operation Force	Applied in the direction of operation. ON→OFF OFF→ON 	1000gf Max (9.8N Max)

Properties	Item	Description	Test Conditions	Requirements
Mechanical Performance	7	Stop Strength	A static load of 1 kgf(9.8N) is applied in the operating direction and pulling direction operated for a period of 15 seconds. A static load of 5 kgf (49N) to apply on stem top position for a period of 15 seconds. 	There shall be no sign of damage mechanically There shall be no sign of electrical function out of order or damage
	8	Soldering Heat Resistance	Soldering Temperature: TEMP: 260°C ±5°C; TIME: 5 ±1 sec. (PCB is 1.6mm in thickness.)	As shown in item 2~6
	9	Vibration	Shall be vibrated in accordance with Method 201A of MIL-STD-202F 1. Frequency: 10-55-10 Hz 1 min/cycle. 2. Direction: 3 vertical directions including the direction of operation. 3. Test Time: 2 hours each direction.	As shown in item 2~6
	10	Shock	Shall be shocked in accordance with Method 213B condition A of MIL-STD-202F 1. Acceleration: 50G. 2. Action Time : 11 ± 1 m sec. 3. Testing Direction: 6 sides. 4. Test cycle : 3 times in each direction)	As shown in item 2~6
	11	Solderability	1. NDS(R)-V Soldering Temperature:245 ±3°C Lead-Free solder : M705E JIS Z 3282 Class A (Tin 96.5%, Silver 3%, Copper 0.5%) 2. Flux: 5-10 seconds. 3. Duration of solder Immersion: 5 ±1 sec.	No anti-soldering and the coverage of dip-ping into solder must more than 75% was requested.
Durability	12	Operation Life	Measurements shall be made following the test set forth below: 1. 25mA, 24V DC resistive load 2. Rate of Operation: 15~20 cycles/ minute 3. Cycle of Operation: 2000 cycles.	1. As shown in item 3,4 2. Contact Resistance: 100mΩ Max. (Final-after test)
Weather Proof	13	Resistance Low Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity condi-tions for an hour before measurements are made: 1. Temperature : -40°C ±3°C. 2. Time: 96 hours	As shown in item 2~6
	14	Resistance High Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity condi-tions for an hour before measurements are made : 1. Temperature : 85°C ±2°C. 2. Time: 96 hours	1.As shown in item 3~6 2.Contact Resistance: 100mΩ Max.
	15	Humidity Resistance	Following the test set forth below the sample shall be left in normal temperature and humidity condi-tions for an hour before measurements are made : 1. Temperature : 40°C ±2°C 2. Relative Humidity :90~95% 3. Time: 96 hours	1. As shown in item 4,6 2. Contact Resistance: 100mΩ Max. 3. Insulation Resistance: 10MΩ Min.

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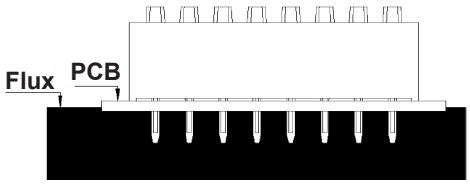
Soldering Conditions

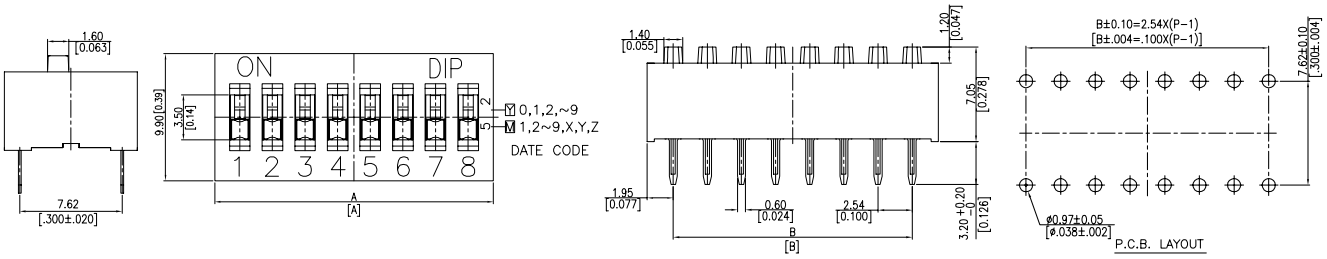
Manual Soldering	
Soldering Temperature	Max.350°C
Continuous Soldering Time	Max. 5 seconds

Precautions in Handling

1. Care should be exercised so that flux from the upper part of the printed circuit board does not adhere to the switch.
2. Don't clean the switch body except with top tape sealed type, which can only spray of cleaning method from top of s/w.
3. There should be no flux rose over the surface of the PCB



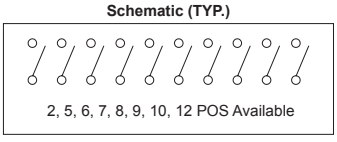
Diagram



Dimensions : Millimetres (Inches)

Part Number	No. of Pos.	"A" mm (Inches)	"B" mm (Inches)
MCNDS-02V	2	6.44 (0.254)	2.54 (0.1)
MCNDS-03V	3	8.98 (0.354)	5.08 (0.2)
MCNDS-04V	4	11.52 (0.454)	7.62 (0.3)
MCNDS-05V	5	14.06 (0.554)	10.16 (0.4)
MCNDS-06V	6	16.6 (0.654)	12.7 (0.5)
MCNDS-07V	7	19.14 (0.754)	15.24 (0.6)
MCNDS-08V	8	21.68 (0.854)	17.78 (0.7)
MCNDS-09V	9	24.22 (0.954)	20.32 (0.8)
MCNDS-10V	10	26.76 (1.054)	22.86 (0.9)
MCNDS-12V	12	31.84 (1.254)	27.94 (1.1)

Schematic (TYP.)



2, 5, 6, 7, 8, 9, 10, 12 POS Available

Tolerances: 10mm Over ±0.2mm
10mm Below ±0.1mm

Part Number Table

Description	Part Number
DIP Switch, Slide Type, 2Pos, SPST-NO, Raised Actuator, Red, TH	MCNDS-02V
DIP Switch, Slide Type, 3Pos, SPST-NO, Raised Actuator, Red, TH	MCNDS-03V
DIP Switch, Slide Type, 4Pos, SPST-NO, Raised Actuator, Red, TH	MCNDS-04V
DIP Switch, Slide Type, 5Pos, SPST-NO, Raised Actuator, Red, TH	MCNDS-05V
DIP Switch, Slide Type, 6Pos, SPST-NO, Raised Actuator, Red, TH	MCNDS-06V
DIP Switch, Slide Type, 7Pos, SPST-NO, Raised Actuator, Red, TH	MCNDS-07V
DIP Switch, Slide Type, 8Pos, SPST-NO, Raised Actuator, Red, TH	MCNDS-08V
DIP Switch, Slide Type, 9Pos, SPST-NO, Raised Actuator, Red, TH	MCNDS-09V
DIP Switch, Slide Type, 10Pos, SPST-NO, Raised Actuator, Red, TH	MCNDS-10V
DIP Switch, Slide Type, 12Pos, SPST-NO, Raised Actuator, Red, TH	MCNDS-12V